



# *INSTRUCT-O-GRAM*

## THE HANDS-ON TRAINING GUIDE FOR THE FIRE INSTRUCTOR

VOLUME XXIV • ISSUE 7

JULY/AUGUST 2003

# Initial Handline Deployment

### TRAINING OBJECTIVES:

1. The instructor will teach the importance of selecting the proper size handline at a structure fire.
  2. The proper techniques for rapid deployment and positioning of the handline will also be taught during this lesson.
  3. The burn building at the fire training center, or an approved acquired structure, shall be used to practice deploying different size attack lines for various types of structures (second floor bedroom, basement, first floor kitchen, etc.).
- a. Proper size hoseline for the fire
  - b. Proper length of hoseline for the structure
  - c. Appropriate type (or types) of nozzle(s) to use during the fire attack
  - d. Impact of available manpower on the attack line deployment
  - e. Proper positioning of the attack line: attack or exposure protection, offensive or defensive mode of attack
2. Demonstrate the proper techniques for advancing the initial handline at various types of structure fires

### METHOD OF INSTRUCTION:

Lecture and demonstration

### INSTRUCTIONAL AIDS:

Self Contained Breathing Apparatus

Personal Protective Clothing

Fixed facility burn building or an approved acquired structure

### PERFORMANCE OBJECTIVES:

The student will:

1. Explain the importance of the first handline at a structure fire in relation to the following:

### ESTIMATED TEACHING TIME:

3 hours

### MOTIVATING THE STUDENT:

There is perhaps no more critical task that will directly impact a fire suppression operation than that of stretching the initial handline at a structure fire. This impact will be either positive or negative. It has been said that "As the first line goes, so goes the fire." Stretching the appropriate handline quickly and efficiently will lead to rapid fire suppression with both lives and property saved.

Stretching an inappropriate size attack line, deploying the line to the wrong location for the desired task, or taking an increased amount of time to position the line

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#### IV. Nozzle Person Responsibilities

- A. Must use full PPE and SCBA
- B. Communication
  - 1. Follow orders of the officer.
  - 2. Ask for clarification if you're not sure exactly what the officer wants you to do.
- C. Determine the amount of hose needed for the type of structure.
- D. Bring the nozzle and one full length of hose (working length) that will be needed to advance through the fire area to reach the seat of the fire. More than one length may be needed depending upon the area in which you are operating.
- E. Chock open doors or gates that may impede the progress of the handline or cause it to kink and block the flow of water.
- F. Position the handline appropriately for the type of operation that you are performing.
  - 1. Protect paths of egress.
  - 2. Locate the seat of the fire and begin extinguishment.
  - 3. Backup another line.
  - 4. Protect exposures.
- G. Ensure that the air is bled from the handline and the nozzle is set on the appropriate pattern (check GPM setting also, if applicable).

#### V. Backup Person Responsibilities

- A. Must use full PPE and SCBA.
- B. Remove all hose from the hose bed and assist the driver with hooking up the line if needed.
- C. Chock open doors and gates.
- D. Removes kinks from the hoseline.
- E. Assist nozzle person with managing the handline.

- 1. Advancing the handline to reach the seat of the fire
- 2. Countering nozzle reaction
- 3. Avoid crowding the nozzle person.
  - a. Dangerous when a hasty retreat is needed
  - b. Previously mentioned jobs are not getting done if backup personnel are with the nozzle person just to get a look at the fire.

#### VI. Door Firefighter Responsibilities

- A. Must use full PPE and SCBA.
- B. Monitor interior and exterior conditions from their vantage point; watch for dangerous conditions.
- C. Communicate pertinent information to the interior attack team.
- D. Assist with feeding the handline into the building.

#### SUMMARY:

The importance of stretching the initial attack line in an efficient and professional manner cannot be overstated. A professional engine company will be aggressive, yet disciplined. They are never sloppy and impatient. The manner in which the first attack line is stretched will often dictate whether the fire will be rapidly extinguished or grow uncontrollably. Our experience and training will allow us to rapidly decide which hoseline to stretch and where to advance it to accomplish rapid fire suppression or completion of our desired task.

#### EVALUATION/TRAINING EXERCISES:

The following evolutions are primarily for entry-level firefighters that have little or no previous experience. The evolutions should initially be conducted without the use of any smoke or fire so that the firefighters can become familiar with the training structures as well as being able to concentrate on the main objective of the lesson, which is to become proficient with the use of handlines during fire operations. As the level of experience and training of the firefighters increases the instructors may wish to



will lead to a progression of the fire with an increased property loss and possible loss of life or injury to civilians and firefighters. The rapid and efficient deployment of the initial attack line is a hallmark of a professional engine company.

## **PRESENTATION:**

### **I. Equipment Familiarization**

A. Utilize charged handlines of varying sizes, and with different types of nozzles, set up in advance, in order to familiarize all personnel with the equipment used throughout the fire service in general and by your company specifically.

1. Hose size and average working flows
  - a. 1 ½ inch – 145 GPM
  - b. 1 ¾ inch – 175 GPM
  - c. 2 inch – 250 GPM
  - d. 2 ½ inch – 350 GPM
2. Nozzles
  - a. Smooth-bore
  - b. Combination
  - c. Specialty nozzles (distributing, foam, piercing)

### **II. Factors to Consider When Selecting Correct Size Hose and Nozzles**

- A. Occupancy of building.
- B. Building construction.
- C. Fire load/area of fire
  1. NFA Rate of Flow Formula: Length x width of fire area (square footage) divided by three equals the approximate amount of water that must be flowed to extinguish a fire in that area
  2. Iowa Rate of Flow Formula: Volume of fire area (length x width) divided by 100 equals the minimum gallons per minute needed for extinguishment of the fire when in an enclosed area

- D. Anticipated fire spread
- E. Conditions on arrival (based on size-up)
- F. Type of attack to be performed
  1. Offensive/interior
    - a. Direct attack
    - b. Indirect attack
    - c. Combination attack
  2. Defensive/exterior
  3. Exposure protection
- G. Available personnel/staffing
- H. Backup handline
  1. Same size or greater than the initial handline
- I. Preplanning
  1. Typical or standard type of structure
  2. Unique type of structure or special hazards
- J. Training of available personnel

### **III. Stretching the Initial Attack Handline**

- A. Types of hose loads – emphasize local types used
  1. Flat load
  2. Triple layer load
  3. Minuteman load
  4. High-rise packs
- B. Demonstrate stretching the handline
  1. Horizontal stretch
  2. Vertical stretch
  3. Deploying hose from a high-rise pack
  4. Advancing up a ladder
  5. Fire escape operations



add smoke and small training fires to the evolutions. The evolutions can be changed due to local structure types and building occupancies.

1. Advance 1 ¾ inch lines off of the engine and into the rear of the first floor of the training structure. Flow water from the nozzle into the room so that the nozzle person and backup personnel will become familiar with the operation. This evolution simulates a fire in the first floor kitchen area of a residential dwelling.
2. Advance 1 ¾ inch lines off of the engine and into a residential dwelling. The line will be advanced up the interior stairs to the second floor bedroom. Flow water from the nozzle into the bedroom. This evolution simulates a bedroom fire on the second floor.
3. Advance 1 ¾ inch lines up the exterior fire escape to the third floor of the training tower. Enter the third floor and flow water into the area. This evolution simulates an engine company having to stretch the handline up the fire escape due to other lines already crowding the interior stairway or a potential collapse of these stairs and allows personnel to become familiar with operating on fire escapes.
4. Advance 1 ¾ inch lines into the basement of a residential dwelling. Flow water once the attack line has entered the basement. This evolution simulates a fire in the basement of a house and should be conducted using the interior steps as well as any exterior stairs so that personnel can become familiar with both types of hoseline advancement.

5. Advance 1 ¾ inch lines to the second or third floor of the building by using a ground ladder. Flow water once you have entered the fire area of the floor. This evolution simulates an engine company having to advance a handline up a ladder to operate on an upper floor due to crowding of the interior stairway or a potential collapse of the stairs.
6. Advance 2 ½ inch lines to the front and rear of the building. Flow water onto the building and surrounding area so personnel can become familiar with what it is like to operate the larger handline. This evolution simulates an exterior attack on the fire while protecting exposures.
7. Conduct any evolutions that may be specific to your district building types and occupancies: standpipe hookups, deploying hose from a high-rise pack, unusual structures, etc.

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- Engine Officer Do's and Don'ts*, Tom Murray, Fire Engineering, February 2002.
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- Fire Stream Management Handbook*, David P. Fornell, PennWell Publishing, 1991.
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#### ACKNOWLEDGMENT:

The materials in this *Instruct-O-Gram* were developed by Christopher S. Murtha of the Wilmington (DE) Fire Department.

The Instruct-O-Gram is the monthly training outline of the International Society of Fire Service Instructors (ISFSI). The monthly Instruct-O-Gram is provided as one of the benefits of membership in ISFSI.

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